

Amendment and Response

Applicant: Robert L. Battey et al.

Serial No.: 09/812,158

Filed: March 19, 2001

Docket No.: 10961158-6

Title: ELECTRICAL AND FLUIDIC INTERFACE FOR AN INK SUPPLY

REMARKS

This Amendment is responsive to the Office Action mailed February 6, 2002 in which claims 16-30 were rejected. With this Response, claim 21 has been canceled, and claims 20 and 22 have been amended. Claims 16-20 and 22-30 remain pending in the application and are presented for reconsideration and allowance.

Double Patenting

In the Office Action, claims 16, 17 and 20-29 were rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-20 of U.S. Patent No. 5,699,091 to Bullock et al. in view of the U.S. Patent 6,142,617 to Barinaga et al. and the U.S. Patent 6,168,262 to Clark et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because even though Bullock et al. does not claim that the electrical contacts are on the first side of the leading edge and the fluid outlet is on the second side of the leading edge, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to relocate the electrical contacts to the first side of the leading edge and the fluid outlet to the second side of the leading edge as disclosed by Barinaga et al. and Clark et al. for the purpose of separating the electrical contacts from the fluid outlet.

In response, it is Applicants position that this obviousness-type double patenting rejection has been made in error. Quite simply, the patents to Barinaga et al. and Clark et al. were filed on the same day (i.e., January 30, 1997) as the instant application (the instant application is a continuation of patent application serial no. 08/791,290, now U.S. Patent 6,203,147 filed January 30, 1997). Since the Barinaga et al. and Clark et al. have the same filing date as the instant application, the Barinaga et al. and Clark et al. can not be used as prior art references for what they teach against the instant application. As such this obviousness-type double patenting over claims 1-20 of U.S. Patent No. 5,699,091 to Bullock et al. in view of the U.S. Patent 6,142,617 to Barinaga et al. and the U.S. Patent 6,168,262 to Clark et al. should be withdrawn. Such action is respectfully requested.

With the obviating of this double patenting rejection claims 21-25 are believed to be objected to since no prior art rejection was applied against these claims.

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Claim Rejections under 35 U.S.C. § 102

In the Office Action, claims 16-20 and 26-30 were rejected under 35 U.S.C. § 102(b) as being unpatentable over the U.S. Patent 5,506,611 to Ujita et al. Ujita et al. in Figure 5 is said to disclose a replaceable ink container 21, 51 for use in an off axis printing system. The printing system is said to be responsive to electrical signals produced by the replaceable ink container for controlling printing system parameters. The replaceable ink container is said to have a leading edge (front wall of 51) defined as that edge of the replaceable ink container first received by the printing system. The replaceable ink container is said to include a plurality of electrical contacts 19a and 19b on the leading edge at a first side of the leading edge configured to engage electrical printer contacts 20a and 20b of the printing system. The ink container is said to further include a fluid outlet 15 on the leading edge that is directly opposite to the first side such that the fluid outlet is separated from the plurality of electrical contacts. The fluid outlet 15 is said to be in fluid communication with the ink container and configured to engage a fluid inlet 16 of the printing system. An information storage device is said to be electrically connected to the plurality of electrical contacts. The Examiner also detailed how Ujita et al. anticipates the subject matter of claims 17-19. Applicants do not believe that this rejection is sound.

Independent claim 16 is directed to a replaceable ink container for use in an off axis printing system that is responsive to electrical signals produced by the ink container for controlling printing system parameters. The replaceable ink container has a leading edge defined as that edge of the ink container first received by the printing system. The replaceable ink container includes a plurality of electrical contacts on the leading edge at a first side of the leading edge. The plurality of electrical contacts are configured for engaging a plurality of corresponding electrical printer contacts of the printing system. The replaceable ink container further includes a fluid outlet on the leading edge at a second side of the leading edge directly opposite to the first side such that the fluid outlet is separated from the plurality of electrical contacts. The fluid outlet is in fluid communication with the replaceable ink container and is configured to engage a fluid inlet of the printing system. An information storage device is electrically connected to the plurality of electrical contacts.

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By disposing the fluid outlet and the plurality of electrical contacts at opposite sides of the leading edge, the fluid outlet and the plurality of electrical contacts of the ink container are separated so as to virtually eliminate the possibility that a fluid leak at the fluid outlet would contaminate the plurality of electrical contacts. A replaceable ink container of this type is not taught, disclosed or anticipated by Ujita et al.

Ujita et al. is directed to an ink jet recording apparatus 53. As seen in Fig. 5, the ink jet recording apparatus 53 includes an ink cartridge 51 removable mountable to a connecting device 52 of the ink jet recording apparatus 53. The ink cartridge 51 includes a housing 12 that houses a flexible ink bag 13 for containing a supply of ink. An ink supply portion 15 is connected to the ink bag 13 via a conducting tube 15a. The ink jet recording apparatus 53 includes a hollow ink needle 16 installed in the connecting device 52. The ink needle 16 is received by the ink supply portion 15 to supply ink from the ink cartridge 51 to the ink jet recording apparatus 53. The ink cartridge 51 further includes a resistor 19 having information. Terminals 19a and 19b on the ink cartridge 51 are connected to the resistor 19. The terminals 19a and 19b engage pin terminals 20a and 20b on the connecting device 52 so that a control circuit of the ink jet recording apparatus 53 can read the information on the resistor 19.

Clearly, Ujita et al. does not disclose **a replaceable ink container wherein a plurality of electrical contacts are disposed on a leading edge of the ink container at a first side of the leading edge, and a fluid outlet is disposed on a second side of the leading edge that is directly opposite to the first side, such that fluid outlet is separated from the plurality of electrical contacts,** as set forth in independent claim 16. In Ujita et al. as plainly seen in Fig. 5, the ink supply portion 15 and the terminals 19a and 19b are disposed on adjacent sides (not opposite sides) of a leading edge of the ink cartridge 51. In addition, the ink supply portion 15 and the terminals 19a and 19b of the ink cartridge 51 of Ujita et al. are positioned next to one another and are not separated as set forth in independent claim 16. By disposing the fluid outlet and the plurality of electrical contacts at opposite sides of the leading edge, as claimed in independent claim 16, the fluid outlet and the plurality of electrical contacts of Applicants' ink container are separated so as to virtually eliminate the possibility that a fluid leak at the fluid outlet would contaminate the plurality of electrical contacts. In Ujita et al. because of their close proximity, a fluid leak at the ink supply portion

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15 would almost certainly contaminate the terminals 19a and 19b thereby making the ink jet recording apparatus 53 of Ujita et al. inoperable.

For the reasons set forth above, Applicants believe that Ujita et al. does not disclose, teach or anticipate, either implicitly or explicitly, what is claimed by Applicants in independent claim 16. Hence, Applicants believe that the rejection of independent claim 16 under 35 U.S.C. § 102(b) has been overcome and should be withdrawn. Such action is respectfully requested.

Dependent claims 17-19 are directly or indirectly dependent upon independent claim 16. As discussed above, it is believed that independent claim 16 is now in a condition for allowance. Therefore, consideration and allowance of dependent claims 17-19 is also requested.

Independent claim 20 has been amended to include the subject matter of believed to be objected to dependent claim 21. As such, independent claim 20 is believed to be in condition for allowance. A notice to that effect is respectfully requested.

Dependent claims 22-25 are directly or indirectly dependent upon independent claim 20. As discussed above, it is believed that independent claim 20 is now in a condition for allowance. Therefore, consideration and allowance of dependent claims 22-25 is also requested.

Independent claim 26 is directed to a replaceable ink container for use in an off-axis printing system responsive to electrical signals produced by the replaceable ink container for controlling printing system parameters. The replaceable ink container includes a leading edge defined as that edge of the replaceable ink container first received by the printing system. The leading edge has a longitudinal axis and a lateral axis perpendicular to the longitudinal axis. An electrical interface portion has a plurality of electrical contacts for transferring the electrical signals between the replaceable ink container and the printing system, wherein the electrical interface portion is a cavity within the leading edge of the replaceable ink container, with the cavity being bisected by the longitudinal axis and having an inner surface with the plurality of electrical contacts thereon such that the plurality of electrical contacts are configured for engaging a plurality of corresponding electrical printer contacts of the printing system. The replaceable ink container includes a fluid outlet on the leading edge such that the longitudinal axis bisects the fluid outlet, wherein the fluid outlet is

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separated from the cavity defining the electrical interface portion, with the fluid outlet being in fluid communication with the replaceable ink container and configured for engaging a fluid inlet of the printing system. A replaceable ink container of this type is not taught, disclosed or anticipated by Ujita et al.

In particular, Ujita et al. does not disclose, teach or suggest **a replaceable ink container that includes a leading edge having a longitudinal axis and a lateral axis perpendicular to the longitudinal axis, an electrical interface portion that is a cavity within the leading edge of the replaceable ink container, with the cavity being bisected by the longitudinal axis and having an inner surface with a plurality of electrical contacts thereon and a fluid outlet on the leading edge such that the longitudinal axis bisects the fluid outlet.** In Ujita et al. the terminals 19a and 19b are not positioned within a cavity within the leading edge of the ink container. Nor in Ujita et al. are the terminals 19a, 19b and the ink supply portion 15 bisected by the longitudinal axis of the replaceable ink container. Independent claim 26 sets forth that the cavity and fluid outlet are both bisected by the longitudinal axis of the ink container. In Ujita these elements are offset from one another. They are not aligned with one another on the longitudinal axis.

For the reasons set forth above, Applicants believe that Ujita et al. does not disclose, teach or anticipate, either implicitly or explicitly, what is claimed by Applicants in independent claim 26. Hence, Applicants believe that the rejection of independent claim 26 under 35 U.S.C. § 102(b) has been overcome and should be withdrawn. Such action is respectfully requested.

Dependent claims 27-30 are directly or indirectly dependent upon independent claim 26. As discussed above, it is believed that independent claim 26 is now in a condition for allowance. Therefore, consideration and allowance of dependent claims 27-30 is also requested.

CONCLUSION

In light of the above, Applicants believe that all claims 16-20 and 22-30 of this application are now in condition for allowance. A notice to that effect is respectfully requested.

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Attached hereto is a marked-up version of the changes made to the specification and/or the claims by the current Amendment. The attached pages are captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**".

Any inquiry regarding this Amendment and Response should be directed to Kevin B. Sullivan at Telephone No. (858) 655-5228, Facsimile No. (858) 655-5859. In addition, all correspondence should continue to be directed to the following address:

Hewlett-Packard Company
Intellectual Property Administration
P.O. Box 272400
3404 E. Harmony Road, M/S 35
Fort Collins, Colorado 80527-2400

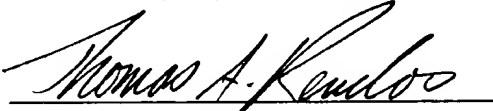
Respectfully submitted,

Robert L. Battey et al.,

By their attorneys,

DICKE, BILLIG & CZAJA, P.A.
701 Building, Suite 1250
701 Fourth Avenue South
Minneapolis, MN 55415
Telephone: (612) 573-2009
Facsimile: (612) 573-2005

Date: 5-6-02
TAR:cmj


Thomas A. Rendos
Reg. No. 33,349

CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Commissioner for Patents, Washington, D.C., 20231 on this 6th day of May, 2002.

By 
Name: Thomas A. Rendos